Name	**Oleksii Tretiak**
Position, Department/Faculty	Head Department of Aero-Hydrodynamic, faculty of aircraft engineering
Academic Degree, Academic Title	Candidate of Technical Sciences (ДК № 023103 from 26 June 2014), Speciality 05.14.06, 27 March 2014, "Institute of Mechanical Engineering Problems of the National Academy of Sciences of Ukraine"; Doctor of Technical Sciences (ДД № 010881 from 09 February 2021), Speciality 05.02.09, 22 October 2020, "Institute of Mechanical Engineering Problems of the National Academy of Sciences of Ukraine "Institute of Mechanical Engineering Problems of the National Academy of Sciences of Ukraine"
Email:	o.tretyak@khai.edu
Scopus Author ID:	**57904058900**
Web of Science ResearcherID:	MGU-1691-2025
ORCID iD:	https://orcid.org/0000-0002-7295-5784
Google Scholar:	https://scholar.google.com/citations?user=DfEV00MAAAAJ&hl=en
ResearchGate:	https://www.researchgate.net/profile/Oleksii-Tretiak-2

EDUCATION:

Basic education (university, major, year of graduation):
Specialist (ХА № 35578324 from 28 February 2009), Aviation and Cosmonautics, February 2009, National Aerospace University "Kharkiv Aviation Institute"

Postgraduate/Doctoral studies:
Doctor of Technical Sciences (ДД № 010881 from 09 February 2021), Speciality 05.02.09, 22 October 2020, "Institute of Mechanical Engineering Problems of the National Academy of Sciences of Ukraine "Institute of Mechanical Engineering Problems of the National Academy of Sciences of Ukraine"

WORK EXPERIENCE:

Professional Career (Workplace, Years, Position):

Professional work experience for the last 10 years (in reverse chronological order - Dates [from - to], position, name of unit/department and institution/organization)

16 February 2022 - till the present time, Head of the Department, Department of Aero-Hydrodynamics, National Aerospace University "Kharkiv Aviation Institute";

11 September 2023 – 30 June 2024, Professor of the Department, Department of Aerospace Thermal

Engineering, National Aerospace University "Kharkiv Aviation Institute";

02 September 2019 – 14 February 2022, Associate Professor of the Department, Department of Aerospace Thermal Engineering, National Aerospace University "Kharkiv Aviation Institute";

02 July 2019 – 14 February 2022, Head of the Department, Department on Calculatining-Theoretical Researches on Turbogenerators and Hydrogenerators, SE "Plant "Electrovajmash" (then changing the name to JSC «Ukrainian Energy Machines»);

01 June 2017 – 01 July 2019, Deputy Head of the Department, Department on Mechanical Calculations, SE "Plant "Electrovajmash";

01 July 2012 – 31 May 2017, Head of the Sector, Department on Mechanical Calculations, SE "Plant "Electrovajmash".

Teaching Experience:

Chairman of the State Examination Commission of the Faculty of Aviation Engines of the National Aerospace University "Kharkiv Aviation Institute" in the field of "Engineering Mechanics" (2017-2020).

Four PhD theses were defended under my supervision (Diploma numbers: H24 № 003848 from 23 September 2024, H24 № 003844 from 23 September 2024, H24 № 004381 from 17 December 2024, H25 № 002369 from 31 July 2025).

Currently, I am the scientific supervisor of five postgraduate students.

Experience in International or National Projects:

Cooperation, including international

1. Executor of work under the contract at the “Instytut Energetyki Państwowy Instytut Badawczy” (Poland, 01-330 Warsaw, st. Mory 8) in the period from 2015 – 2016 in the project “ESP Porąbka-Żar, Polska Technical Proposal for the Repair and Modernization of ADV566M165 Type Hydrogenerator-Motor”.

2. I have leading role in the development of the design and assembly technology of the 3800 KW engine and the introduction of commercial high-tech products into the market within the framework of the labor agreement between LLC "KHEMZ" (Ukraine, Kharkiv) and Oleksii Tretiak in 2023 - 2025.

Participation in collective research projects (status in the project and method/form of participation, name of the project, level of the project (all-Ukrainian, international), organizer/implementor of the project, period of implementation, source of funding)

Executor, Executor, "Aircraft Engine Valves Thermal Managementwith Advanced Loop Heat Pipe" (EVAL) (GA number: № 886615), international, Framework Program of the European Union "Horizon 2020", 2020 – 2023, European Union.

RESEARCH ACTIVITIES:

Major research, scientific and technical accomplishments

1. Utility model patent No. 156013 “Stator of an Electric Machine” (Ukraine), co-author, 24 April 2024, https://iprop-ua.com/inv/kbxr8jpi.

2. Utility model patent No. 158317 “Cooling system of a capsule-type hydrogenerator” (Ukraine), co-author, 22 January 2025, https://iprop-ua.com/inv/6eupjyg4.

Individual research projects (name of the project, period of implementation, name of the grant and donor)

"Analysis of the strength of high-power Turbogenerator assembly units to ensure their reliable operation under the influence of supercritical loads to ensure the energy security of Ukraine during martial law" (Registration number 224/0008), 16 November 2023 – 15 November 2024, Cambridge - NRFU 2022. Individual research (development) grants for Ukrainian scientists (supported by the University of Cambridge, United Kingdom), NRFU.

Number of Publications (Scopus, WoS, others):
more than two hundred

Monographs, Textbooks:
Monography:
Analysis of the stress-strain mill of high-tension turbogenerators during operation in over-design modes Dr. Kharkiv: CP “Miska drukarnya”, 2024 – 2026 p. ISBN 978-617-619-297-8, 6 printed sheets ;
Textbooks:
Aerodynamics of aircraft. Lecture notes. Part 1. , 10 printed sheets, Tretyak O.V., Repetenko M.V., Arefieva M.O., Gromenko D.V., 2022 ;
Aircraft testing. Lecture notes., 5 printed sheets, Kovryga A.E., Tretyak O.V., Arefieva M.O., 2022.

Participation in Scientific Conferences:
Integrated Computer Technologies in Mechanical Engineering - 2023. ICTM 2023. Lecture Notes in Networks and Systems, vol 1008. Springer, Cham. https://doi.org/10.1007/978-3-031-61415-6_7 Q4; SNIP: 0,282; Mathematical Modeling of the Thermal State of the Brush-Holders Device in a Three-Dimensional Setting

TEACHING ACTIVITIES:

Courses Taught:
Rocket flight dynamics, Aviation testing.

Methodological Materials, Textbooks:
Aerodynamics of aircraft. Lecture notes. Part 1. , 10 printed sheets, Tretyak O.V., Repetenko M.V., Arefieva M.O., Gromenko D.V., 2022 ;
Aircraft testing. Lecture notes., 5 printed sheets, Kovryga A.E., Tretyak O.V., Arefieva M.O., 2022.

GRANTS AND PROJECTS:

Participation in International and National Projects:

Participation in collective research projects (status in the project and method/form of participation, name of the project, level of the project (all-Ukrainian, international), organizer/implementor of the project, period of implementation, source of funding)

Grants, Scholarships, Academic Mobility Programs:

Executor, Executor, "Aircraft Engine Valves Thermal Managementwith Advanced Loop Heat Pipe" (EVAL) (GA number: № 886615), international, Framework Program of the European Union "Horizon 2020", 2020 – 2023, European Union.

PROFESSIONAL ACHIEVEMENTS AND AWARDS:

Honorary Titles:
Distinctions, Awards, Prizes:
Honors and awards:

1. Winner of the "Young Person of the Year" contest (Ukraine, Kharkiv, 2016).
2. Certificate of Honor from the Mayor of Kharkiv (Ukraine, Kharkiv, 2023).
3. Gratitude from the Chairman of the Kharkiv Regional Council (Ukraine, Kharkiv, 2024).
4. Gratitude from the Minister of Education and Science of Ukraine (Ukraine, Kyiv, 2024).
5. 1st Degree Diploma, Contest "Young Innovator", nomination "Best Innovative Proposal", "Design and Technological Methods for Increasing the Power of Hydrogenerators in Ukraine", Kharkiv Regional Council of Inventors and Rationalizers, Ukraine, 2025.

SELECTED PUBLICATIONS:

Key Articles (Scopus, WoS, others):

1. Utility model patent No. 156013 “Stator of an Electric Machine” (Ukraine), co-author, 24 April 2024, https://iprop-ua.com/inv/kbxr8jpi.
2. Utility model patent No. 158317 “Cooling system of a capsule-type hydrogenerator” (Ukraine), co-author, 22 January 2025, https://iprop-ua.com/inv/6eupjyg4.

Selected publications

1. Tretiak, O.; Arefieva, M.; Krytskyi, D.; Kravchenko, S.; Shestak, B.; Smakhtin, S.; Kovryga, A.; Serhiienko, S. Features of Three-Dimensional Calculation of Gas Coolers of Turbogenerators. Computation 2025, 13, 192. https://doi.org/10.3390/computation13080192, **Q2**.
2. Tretiak, O., Kravchenko, S., Mykhailychenko, O., Nazarenko, V., Smyk, S., Vasyliev, O., Arefieva, M., Tretiak, I., Serhiienko, S., & Selevko, V. (2025). Devising a method for calculating the structure of efficient cooling systems for thrust bearings and guide bearings in hydrogenerators. Eastern-European Journal of Enterprise Technologies, 3(1 (135), 38–50. https://doi.org/10.15587/1729-4061.2025.329021, **Q3**.
3. Tretiak, O., Kovryga, A., Kravchenko, S., Shpitalnyi, D., Zhukov, A., Serhiienko, S., Arefieva, M., Penkovska, N., & Madonych, A. (2024). Estimating the influence of the rigidity of support assemblies on the resonance phenomena and the vibration state of a hydraulic unit. Eastern-European Journal of Enterprise Technologies, 6(7 (132), 53–64, https://doi.org/10.15587/1729-4061.2024.316778, **Q3**.
4. Tretiak, O., Serhiienko, S., Zhukov, A., Gakal, P. et al., "Peculiarities of the Design of Housing Parts of Large Direct Current Machines," SAE Int. J. Mater. Manf. 17(1):2024. ISSN: 1946-3979, e-ISSN: 1946-3987, https://doi.org/10.4271/05-17-01-0005, **Q3**.

5. Tretiak, O.; Kritskiy, D.; Kobzar, I.; Arefieva, M.; Selevko, V.; Brega, D.; Maiorova, K.; Tretiak, I. Stress-Strained State of the Thrust Bearing Disc of Hydrogenerator-Motor. Computation 2023, 11, 60, https://doi.org/10.3390/computation11030060, **Q2**.

6. Tretiak, O.; Kritskiy, D.; Kobzar, I.; Arefieva, M.; Nazarenko, V. The Methods of Three-Dimensional Modeling of the Hydrogenerator Thrust Bearing. Computation 2022, 10, 152, https://doi.org/10.3390/computation10090152, **Q2**.

7. Tretiak, O.; Kritskiy, D.; Kobzar, I.; Sokolova, V.; Arefieva, M.; Tretiak, I.; Denys, H.; Nazarenko, V. Modeling of the Stress–Strain of the Suspensions of the Stators of High-Power Turbogenerators. Computation 2022, 10, 191, https://doi.org/10.3390/computation10110191, **Q2**.

8. Tretiak, O., Arefieva, M., Makarov, P., Serhiienko, S., Zhukov, A., Shulga, I., Penkovska, N., Kravchenko, S., Kovryga, A., "Study of Different Types of Ventilation and Cooling Systems of Bulb Hydrogenerators in a Three-Dimensional Setting," SAE Int. J. Mater. Manf. 18(3), 2025. https://doi.org/10.4271/05-18-03-0020, **Q3**.

9. Tretiak, O., Smyk, S., Kravchenko, S., Smakhtin, S., Brega, D., Zhukov, A., Serhiienko, S., & Don, Y. (2024). Devising a calculation method for modern structures of current-conducting elements in large electric machines in a three-dimensional statement. Eastern-European Journal of Enterprise Technologies, 4(1 (130), 87–96. https://doi.org/10.15587/1729-4061.2024.310049, **Q3**.

Books, Chapters in Collective Monographs:

Books:

1. Третяк О.В., Кравченко С.С. Аналіз напружено-деформованого стану турбогенераторів великої потужності при роботі в надпроєктних режимах, монографія. Харків: Національний аерокосмічний університет ім. М.Є. Жуковського «ХАІ»; – Харків: КП «Міська друкарня», 2024 – 206 с. ISBN 978-617-619-297-8.
2. Tretiak, O., Kovryga, A., Makarov, P., Penkovska, N., Kravchenko, S. Mathematical Modeling of the Thermal State of the Brush-Holders Device in a Three-Dimensional Setting. Integrated Computer Technologies in Mechanical Engineering - 2023. ICTM 2023. LNNS, vol 1008, pp. 75–90, Springer, Cham. Print ISBN 978-3-031-61414-9, Online ISBN 978-3-031-61415-6, https://doi.org/10.1007/978-3-031-61415-6_7.

Links to Citation Database Profiles:

https://www.scopus.com/authid/detail.uri?authorId=57904058900
http://orcid.org/0000-0002-7295-5784
https://scholar.google.com/citations?user=DfEV00MAAAAJ&hl=en
https://www.researchgate.net/profile/Oleksii-Tretiak-2

ADDITIONAL INFORMATION:

Language Proficiency:

English, C1 (diploma ITEP Academic-Plus Exam ID#11568B70AP from 06 December 2021)